FACT SHEET FOR NPDES PERMIT WA-003060-1

Puget Sound Energy

Point Whitehorn Generating Station

This fact sheet is a companion document to the draft National Pollutant Discharge Elimination System (NPDES) Permit No. WA-003060-1 for Puget Sound Energy. The Department of Ecology (the Department) is issuing this renewed permit which will allow discharge of treated filter backwash water and neutralization effluent to the Strait of Georgia and stormwater runoff to Birch Bay.

This site specific fact sheet and the referenced fact sheet explain the nature of the discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions.

GENERAL INFORMATION	
Applicant	Puget Sound Energy P.O. Box 97034, PSE-09S Bellevue, WA 98009
Facility Location	Whitehorn Generating Station 4930 Brown Road Blaine, WA
Type of Industry	Power Generation
Receiving Water	a) Outfall 001: Strait of Georgia, Class AA b) Outfall 002: Birch Bay via Terrell Creek, Class A
Discharge Location	a) Outfall 001 Latitude: 48° 52' 40" N Longitude: 122° 46' 12" W b) Outfall 002 Latitude: 48° 53' 10" N Longitude: 122° 45' 19" W
Water Body ID Number	a) WA-01-0010 (Strait of Georgia) b) WA-01-0010 (Birch Bay)
Standard Industrial Classification	

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the state include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the public notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

GENERAL DESCRIPTION

The Point Whitehorn Power Generating Station is a stand-by power plant. The facility is built on approximately 40 acres of property owned by Puget Sound Energy. The site is located at the northwest corner of the intersection of Brown and Jackson Roads (see Figure 1).

The facility consists of two combustion turbine engines (units 2 and 3), fuel storage facilities, water treatment building and equipment, demineralization injection water storage tank, wastewater pond, switching station, control house, and a microwave communication tower. This plant is only operated for peak load conditions, emergencies, equipment outages, energy demand, and to maintain reliability of service during periods of adverse water or weather conditions.

Both units can be started, operated, and shutdown remotely from the Redmond dispatch center through relay of microwave signals to the on-site microwave tower. The station is usually manned during normal business hours, Monday through Friday.

FUEL STORAGE

The facility uses natural gas as the primary fuel, and diesel (No. 2 fuel) as the secondary fuel. Natural gas is supplied by a 12-inch underground pipeline from Cascade Natural Gas Corporation. No natural gas is stored on-site. No. 2 diesel fuel can be supplied by a pipeline from BP Cherry Point Refinery located 1/4 mile east of the site. Diesel fuel is stored in a 100,000-barrel storage tank (Tank No. 3) and two 25,000-barrel storage tanks (Tank No. 1 and Tank No. 2). The fuel storage tanks are equipped with high level indicators to prevent overfilling of the tanks. Each indicator has an audible alarm and an indicating light.

Tanks No. 1 and No. 2 are situated within a diked containment area that has a capacity of 1,200,000 gallons. Tank No. 3 is situated within a diked containment area that has a capacity of 6,100,000 gallons.

Fuel may also be brought in by tanker trucks in the event that BP is unable to supply fuel. A concrete fueling dock is provided at the diked fuel storage area of Tanks No. 1 and No. 2 for tanker truck fueling operations. A drip bucket is provided in the adjacent shelter to collect fuel drips that may occur while connecting and disconnecting the transfer hose to the system piping.

INDUSTRIAL PROCESS AND WASTEWATER GENERATION

Combustion turbines operate on the same thermodynamic principle as an aircraft jet engine. Air at atmospheric temperature and pressure is drawn into a compressor driven by a turbine where it is compressed through the multistage blading to a pressure 10 to 15 times that of atmospheric. The compressed air is then mixed with natural gas fuel, and the mixture is ignited in the combustion chamber. The resultant high temperature gases (approximately 1,900° F) expand through the power turbine section, driving the turbine, which in turn drives the compressor and the electrical generator.

Exhaust gases (approximately 975° F) from the turbine are then discharged upward through exhaust stacks. Operational emissions from the turbines consist primarily of NO_x, SO_2, particulates, hydrocarbons, carbon dioxide and carbon monoxide, which are regulated by the Northwest Air Pollution Authority. To reduce the formation of NO_x and other emission constituents during the combustion process, demineralized water is injected into the gas turbine combustion chamber at a fuel-to-water ratio of 2 to 1 in order to lower the peak combustion temperature.

The demineralized water is stored in a 500,000-gallon water injection storage tank. The demineralization process involves treating raw water from the PUD (drawn from the Nooksack River) by running it through a series of sand filters and demineralization beds (ion exchange: anion and cation process).

Approximately 23,000 gpd of process wastewater is generated by backwashing the water treatment filters and demineralization system, and 500 gpd is generated from the floor drain. This wastewater is neutralized with sulfuric acid and caustic soda prior to discharge. The neutralized wastewater may contain some suspended and dissolved solids. Dissolved solids will be primarily sodium and sulfate ions due to the addition of sulfuric acid and sodium hydroxide for ion exchange regeneration.

Domestic wastewater on-site is discharged to a septic system, which is located next to the control house/office, in the northwest corner of the building.

DISCHARGE OUTFALL

Outfall 001:

After the treated filter and demineralizer backwash and floor drain water are neutralized, it is then pumped out to Strait of Georgia via an underground pipe which runs south of Jackson Road, then 1/2 mile west along Alder Grove Road to a roadside drainage swale, which carries the wastewater 1/2 mile to the Strait of Georgia.

Outfall 002:

Runoff from plant areas where there is potential oil spillage (turbines, transformers, and oil-filled circuit breakers) is collected in a sump. This runoff is then pumped into the bermed containment area surrounding fuel Tanks No. 1 and 2. Runoff from the remainder of the site goes into the storm drainage system which is then pumped into the bermed containment area surrounding fuel Tank No. 3. The water collected in these containment areas is inspected weekly (daily during the rainy season) for oily sheen. If oil is detected, it will be removed with absorbent pads and disposed of properly. Oil-free runoff water collected from both bermed containment areas is manually drained to the storm drainage systems and directed to retention ponds and staked hay bales to "polish" the water prior to discharge. The hay bales are used to remove fine sediment particles that may not settle.

The storm water leaving the site flows in a northerly direction to Terrell Creek, which in turn empties into Birch Bay. The drainage distance from the site to the mouth of Terrell Creek on Birch Bay is about 1.8 miles. There is no discharge during the drier, summer months.

It is not clear whether the historical practice for occasional water draw-off from tanks has been to drain it directly to the ground within the containment dike area. However, the present practice for occasional tank water draw-off, which is performed quarterly, is to contain and ship it off-site to an oil recycler.

PERMIT STATUS

The previous permit for this facility was issued on January 21, 2000. The previous permit placed effluent limitations on flow rate, total settleable solids, total dissolved solids, oil & grease and pH for Outfall 001; flow rate, oil & grease and pH for Outfall 002.

The application for permit renewal was submitted to the Department on September 19, 2003, and accepted by the Department on November 12, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on July 22, 1997. During the history of the previous permit, the Permittee has remained in compliance with permit conditions, verified through inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Process Wastewater Characterization

Parameter	Maximum Concentration Reported
TDS	4414 mg/L
TSS	1 ppm
Sulfate	2845 mg/L
Oil & grease	<5 mg/L
pH	Between 6 and 9 s.u.

Table 2: Stormwater Runoff Characterization

Parameter	Concentration
Oil & grease	5.5 mg/L
pH	Between 6 and 7.5 s.u.

PROPOSED PERMIT LIMITATIONS

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the surface water quality standards (Chapter 173-201A WAC), ground water standards (Chapter 173-200 WAC), sediment quality standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the state of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Technology-based limitations are set by regulation in the federal effluent guidelines or on a case-by-case basis using Best Professional Judgment (BPJ) when no effluent guidelines exist for an industrial category. Technology-based limits represent the best treatment a facility can achieve consistent with the economic means of the industry as a whole (in the case of effluent guidelines) or of the specific facility being permitted (in the case of BPJ). Technology-based effluent limits are process control parameters or numbers which if exceeded indicate that a process, which in this case is wastewater treatment, is not functioning properly. The following limits have been set for Outfall 001 and Outfall 002.

Outfall 001

Parameter	Daily Maximum
Flow	47,000 gpd
Total Settleable Solids	0.1 ml/L
Total Dissolved Solids	10,000 mg/L
Oil & Grease	15 mg/L

The flow, total settleable solids, total dissolved solids, and no visible oily sheen remain the same as in the previous permit. The flow limitation is set based on information in the permit application submitted by the Permittee. The daily maximum limit for oil and grease remains unchanged. Monitoring requirements for oil & grease and sulfate remain the same as in the previous permit. Spill reporting requirements have been moved from Special Condition S1 to S8 of the permit.

Outfall 002

Parameter	Daily Maximum
Oil & grease	15 mg/L

The daily maximum limits for oil & grease and no visible oily sheen remain the same as in the previous permit for Outfall 002.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established surface water quality standards. The Washington State surface water quality standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the state of Washington's water quality standards for surface waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the water quality standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other diseases and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

ANTIDEGRADATION

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the state Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

MIXING ZONES

The water quality standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to Strait of Georgia which is designated as Class AA marine water (Outfall 001) and Birch Bay via Terrell Creek (Outfall 002) is designated as Class A fresh water in the vicinity of the outfalls. Other nearby point source outfalls include BP Refining, Chemco and Praxair, Inc. Characteristic uses include the following:

> water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992).

WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA

The water quality-based effluent limits in this permit are as follows:

Parameter	Effluent Limit
pH	between 7 and 8.5 standard units (Outfall 001)
pH	between 6.5 and 8.5 standard units (Outfall 002)

According to Chapter 173-201A, Strait of Georgia is classified as Class AA marine water receiving water (Outfall 001), and Terrell Creek is classified as Class A fresh water receiving water (Outfall 002). The water quality criteria for pH in a Class “AA” marine water environment are between 7 and 8.5 standard units. The water quality criteria for pH in a Class “A” fresh water environment are between 6.5 and 8.5 standard units.

WHOLE EFFLUENT TOXICITY

The water quality standards for surface waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge is unlikely to contain chemicals regulated for human health.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharge characteristics and effluent characteristics that this discharge has no reasonable potential to violate the sediment management standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated ground water quality standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters, the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.*

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-220-210).

SPILL PLAN

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the

Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control its production in order to maintain compliance with its permit. Condition G10 prohibits the reintroduction of removed substances back into the effluent. Condition G11 states that the Department will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G12 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G13 notifies the Permittee that additional monitoring requirements may be established by the Department. Condition G14 requires the payment of permit fees. Condition G15 describes the penalties for violating permit conditions.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary, to meet water quality standards for surface waters, sediment quality standards, or water quality standards for ground waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this permit be issued for a period of five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

Puget Sound Power & Light, Whitehorn Station. December 24, 1997, NPDES permit application.

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on November 13 and 20, 2004, in the *Northern Light* to inform the public that an application had been submitted and to invite comment on the issuance of this permit.

The Department published a Public Notice of Draft (PNOD) on April 29, 2004, in the *Northern Light* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7201, or by writing to the address listed above.

This permit and fact sheet were written by Jeanne Tran, P.E.

APPENDIX B--GLOSSARY

AKART--An acronym for "all known, available, and reasonable methods of treatment."

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks; sludge or waste disposal; or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.)

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/state permits issued under both state and federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Responsible Corporate Officer--A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

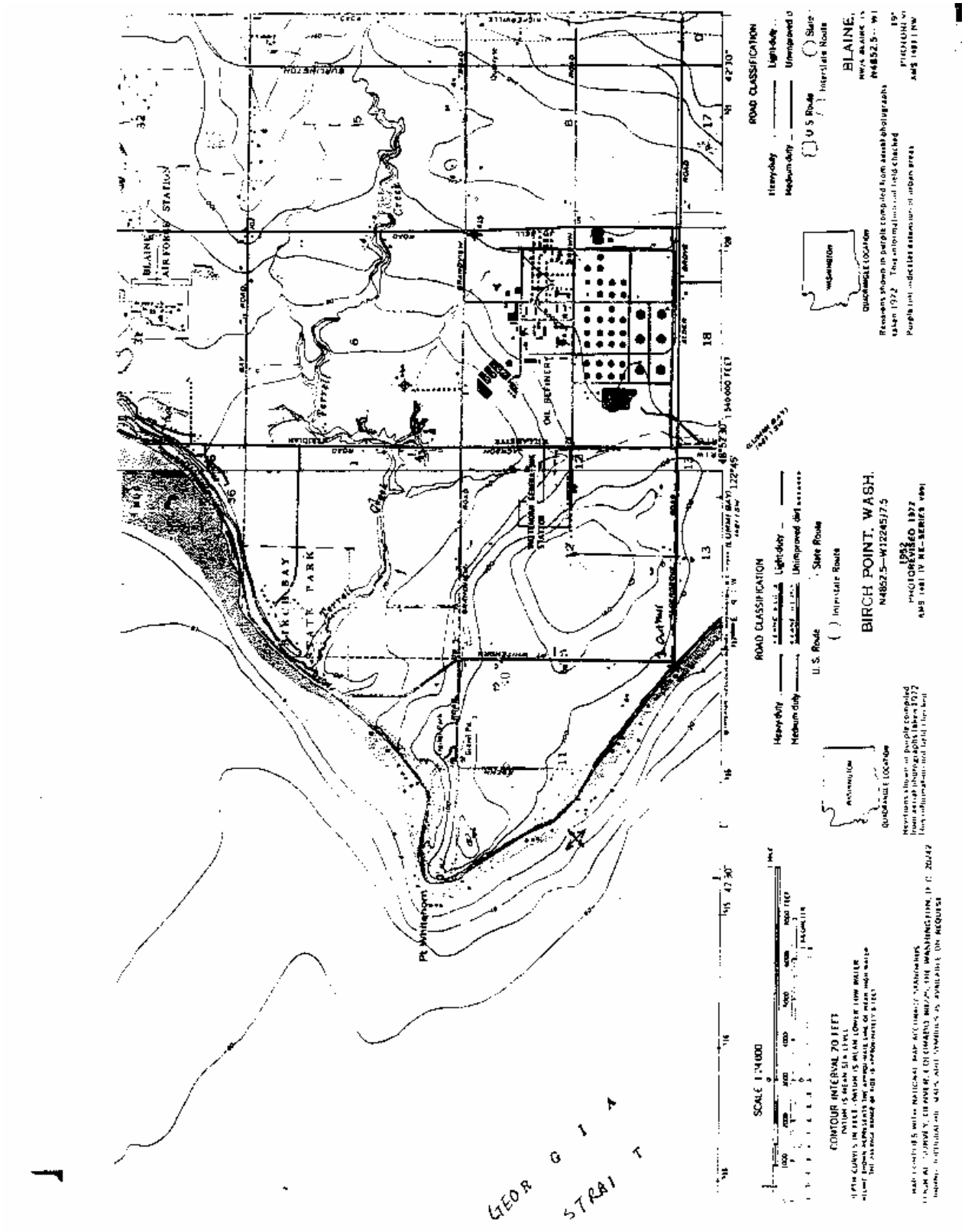
State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--SITE MAPS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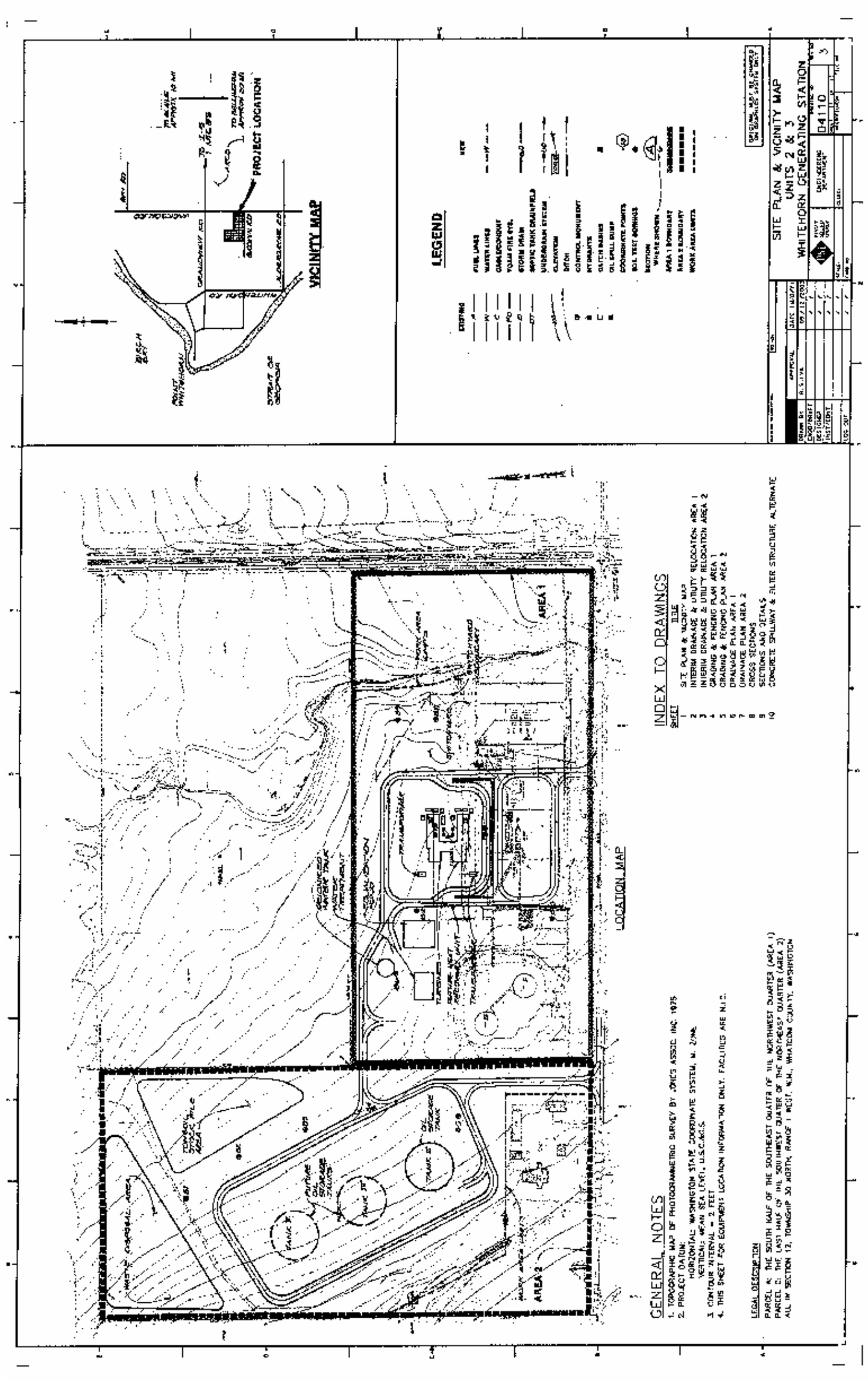
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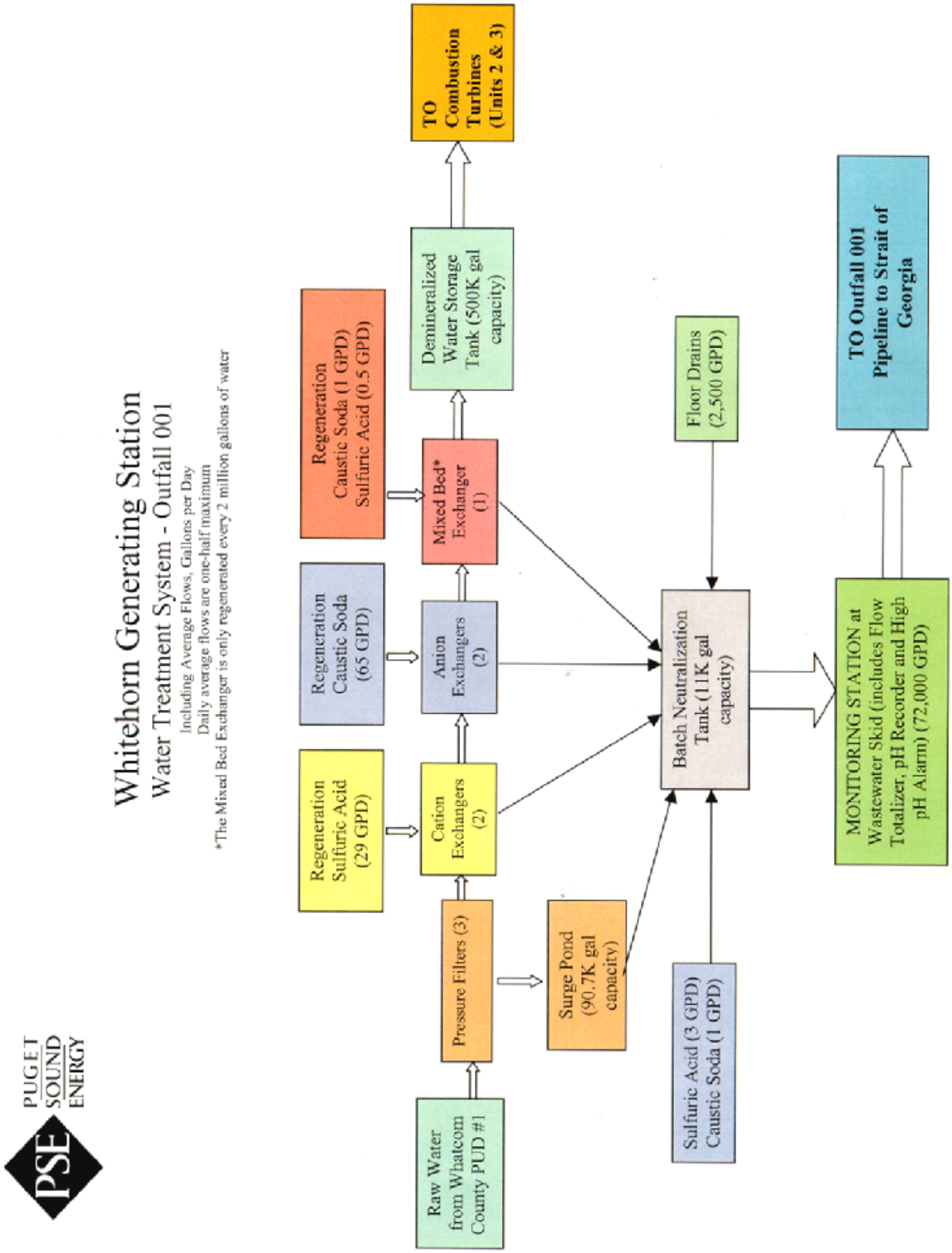
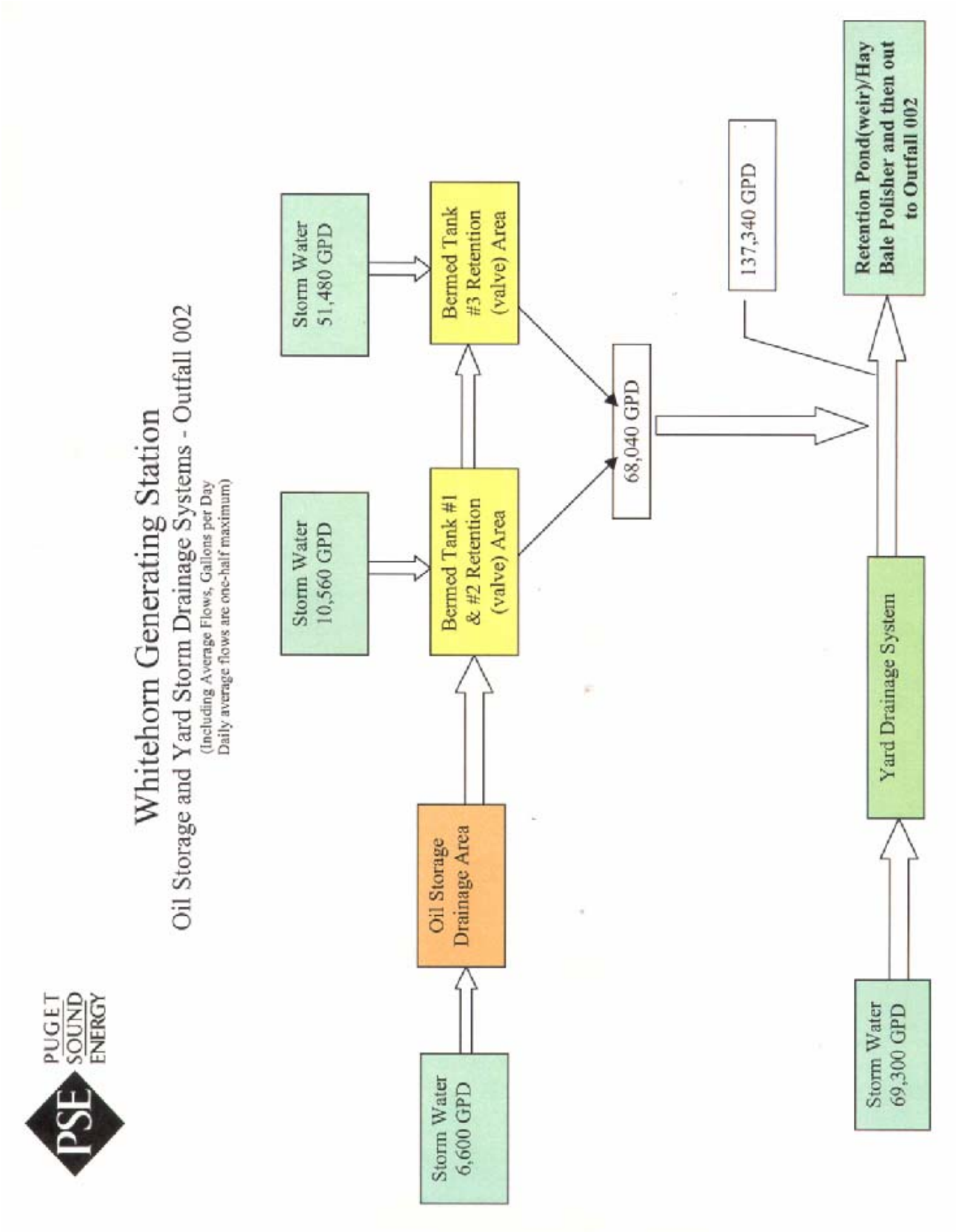
UNITS 2 & 3
WHITEHORN GENERATING STATION
D4110
INDEX TO DRAWINGS
SHEET
TITLE
1 SITE PLAN & VICINITY MAP
2 INTERIM DRAINAGE & UTILITY RELOCATION AREA 1
3 INTERIM DRAINAGE & UTILITY RELOCATION AREA 2
4 GRADING & PENDING PLAN AREA 1
5 GRADING & PENDING PLAN AREA 2
6 DRAINAGE PLAN AREA 1
7 DRAINAGE PLAN AREA 2
8 CROSS SECTIONS
9 SECTIONS AND DETAILS
10 CONCRETE SPILLWAY & FILTER STRUCTURE, ALTERNATE
LOCATION MAP
GENERAL NOTES
1. TOPOGRAPHIC MAP OF PHOTOGRAMMETRIC SURVEY BY JONES ASSOC INC, 1975
2. PROJECT DATUM:
HORIZONTAL: WASHINGTON STATE COORDINATE SYSTEM, N. ZONE
VERTICAL: MEAN SEA LEVEL, U.S.C.&G.S.
3. CONTOUR INTERVAL = 2 FEET
4. THIS SHEET FOR EQUIPMENT LOCATION INFORMATION ONLY. FACILITIES ARE N.I.C.
LEGAL DESCRIPTION
PARCEL A: THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER (AREA 1)
PARCEL B: THE EAST HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER (AREA 2)
ALL IN SECTION 12, TOWNSHIP 30 NORTH, RANGE 1 WEST, W.M., WHATCOM COUNTY, WASHINGTON


PUGET SOUND ENERGY
PSE
Whitehorn Generating Station
Water Treatment System - Outfall 001
Including Average Flows, Gallons per Day
Daily average flows are one-half maximum
*The Mixed Bed Exchanger is only regenerated every 2 million gallons of water
Raw Water from Whatcom County PUD #1
Pressure Filters (3)
Surge Pond (90.7K gal capacity)
Regeneration Sulfuric Acid (29 GPD)
Cation Exchangers (2)
Regeneration Caustic Soda (65 GPD)
Anion Exchangers (2)
Regeneration Caustic Soda (1 GPD) Sulfuric Acid (0.5 GPD)
Mixed Bed* Exchanger (1)
Demineralized Water Storage Tank (500K gal capacity)
TO Combustion Turbines (Units 2 & 3)
Sulfuric Acid (3 GPD) Caustic Soda (1 GPD)
Batch Neutralization Tank (11K gal capacity)
Floor Drains (2,500 GPD)
MONITORING STATION at Wastewater Skid (includes Flow Totalizer, pH Recorder and High pH Alarm) (72,000 GPD)
TO Outfall 001 Pipeline to Strait of Georgia


PUGET SOUND ENERGY
PSE
Whitehorn Generating Station
Oil Storage and Yard Storm Drainage Systems - Outfall 002
(Including Average Flows, Gallons per Day
Daily average flows are one-half maximum)
Storm Water 6,600 GPD
Oil Storage Drainage Area
Storm Water 10,560 GPD
Bermed Tank #1 & #2 Retention (valve) Area
Storm Water 51,480 GPD
Bermed Tank #3 Retention (valve) Area
68,040 GPD
137,340 GPD
Storm Water 69,300 GPD
Yard Drainage System
Retention Pond(weir)/Hay Bale Polisher and then out to Outfall 002

APPENDIX D--RESPONSE TO COMMENTS